

It should be noted that combustion of fuel source 20 appears to be largely a surface effect and it has been noted in tests that solid fuel which has been liquified but not vaporized and which has leached out of body 24 and onto the support surface 27 does not tend to ignite.

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Fuel source 20 has been tested using various porous carriers. Tests were conducted using combustible porous carriers with coarse paper and fine paper. In one test the relatively coarse paper employed in egg crates was used as the porous carrier and this has resulted in a relatively hot and quick combustion. The coarse paper used in egg crates is essentially any over-processed wood fibre or short fibre like Krofta Fines, which are expelled during the manufacturing process of wood fibres to achieve fluff pulp. Fluff pulp is used in environmentally friendly diapers and feminine napkins. Because there is a portion of the wood fibre which becomes too short through breakage in manufacturing to be utilized in the machinery used to manufacture fluff pulp, it is dropped from the process as waste.

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In another test, finer paper, newsprint, was used as the porous carrier. Newsprint is a finer paper because the wood strand is long and is still considered to be a quality material. The finer paper resulted in a relatively less hot but longer burning combustion. In both cases, it should be noted that the combustion of fuel source 20 appeared to be particularly efficient, with little, if any, soot being produced.

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As best understood, in the present invention the porous carrier apparently transports the solid fuel which has been vaporized from within body 24 to the combustion surface 26 of body 24 wherein combustion is occurring. It is presently believed that the relative coarseness of the porous carrier regulates the speed with which this transport occurs and thus is one of the limiting factors in the combustion process. It is also believed that the porous carrier serves to assist heat transfer from the combustion surface 26 into body 24 to promote vaporization of the solid fuel and that the porous carrier allows for air to be drawn into body 24 below the combustion surface 26 to facilitate clean and complete combustion.

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